

BATURDAY, JUNE 18, 1904



LITTLE TALK ON SCIENCE.

Good Lightning Conductors May Be Obtained Without Spending Much Money.

rod to ground is a prime necessity in lightning rod construction.

2. The experimental and theoretical study of the transmission of rapid electrical oscillations, and of abrupt electrical pulses along wires or rods has led to the recognition of the following facts: (a) Straightness and directness of path to earth is the most arrangement or the rod is concerned. (b) A given weight of metal is a more effective carrier of rapid electrical oscillations and of abrupt electri-



RODS OFF THE HOUSE.

cal pulses when it is in the form of ribbon, thin-walled tube, or cable than when it is in the form of a solid rod. 3. If the path along the rod to ground is roundabout, then the more

direct through the protected (?) structure is apt to be chosen by the elecpoor electrical conductivity of this direct path, and in spite of any or dinary degree of insulation of the rod. 4. The arrangement shown in the

accompanying sketch affords very direct communication to earth from the regions pp pp, which regions therefore are to be considered as well pro-

On the other hand the ground communication from the region dd is unnecessarily roundabout and this region dd is therefore unnecessarily exposed to danger. Given a good ground connection, then directness of path to Only the uninformed can be misted. ground from the region which is to be comparison. If the path is direct bune-Farmer, there is no need of insulation and if the path is roundabout effective insu- EXCELLENT CLOD CRUSHER. lation is not practically feasible.-W. S. Franklin, in Rural New Yorker.

Soil for Growing Apples.

A good fertile soil, porous, loamy with plenty of humus, potash and lime, so as to give fair to good crops of grain or grass, is the most to be desired, while the nearest approach to these requirements would be my next The one in the illustration, with sev choice-a soil that dries out quickly, so that it can be plowed soon after a rain, one that works easily, so as to get the best results with the least labor; a soil that will give a good crop of corn while we are growing the trees; a soil that will not bake too easily, is the one that is always desirable. Now comes a rocky or gravelly soil, which is nearly always good, the only drawback being that it takes more work to get results. These soils are found in abundance in all out mountain districts, and nearly always they are good fruit soils.-L. A. Goodman, in Farmers' Review,

Provide for Good Drainage.

The past two seasons have been we ones. A large amount of snow fell the past winter. This spring the ground will be thoroughly soaked. What the summer weather will be is of course a guess, but it is safe to provide for thorough drainage, as this work will result in better crops in either a wet or a dry season. If wet, the best of tiling and surface drainage will be necessary. Plans should be made early. The idea that thorough drainage is unnecessary has been pretty effectually dissipated. If the season is very dry the land will stand the drouth better for having been well drained. For best results any season, plan to drain your farm as thoroughly as possible .-Orange Judd Farmer.

Study in Wheat Culture.

Mr. A. D. Hall, of England, who has experimented extensively in wheat culture, has come to the corclusion that a great deal depends upon the time of cutting. When green wheat begins to swell the first thing that comes into it is albumen, and the last packing is almost pure starch. If, therefore, it is possible to shorten the ripening period and prevent the starch element from entering the grain, the grain must of necessity be much stronger. Mr. Hall is inclined to the opinion that farmers would do well to cut wheat while it is yet in a green state, as by so doing they will get the grain richer in nitrogenous elements and richer in gluten-a stronger wheat in fact.

Plenty of Work Promised.

No man in the United States needs to be without work during the coming summer if he is able bodied and willing to labor. The harvest fields of Nebraska. Missouri, Kansas, Iowa, Minnesota, Oklahoma and South Dakots will need at -Washington Star.

least 45,000 hands. The Western Association of Free Employment bureaus tives out this information. The sever states covered have a grain area of 37,-097,722 acres, and a total grain produc-tion of 692,088,444 bushels.

WHAT FARMERS NEED MOST

Sensible, Practical Education, to Be Continued Through Life by Constant Study.

The farmer's greatest need is education. He should have as good education as our public schools can give as a foundation for the special knowledge of the different branches of farming which he pursues. The farmer needs to read and study more than he does It is not uncommon to hear farmers so discuss matters pertaining to their husbandry that it is clearly evident that they are uninformed about things which they should understand in order to get the best returns for money and labor expended.

In the United States there is no ex cuse for farmers to be without considerable knowledge of farming in its different branches. Our federal government does a great amount of investigation, the result of which is given gratis to every one. The different states have 1. Good connection of a lightning agricultural colleges and experiment stations, where investigations and experiments are constantly carried on, and in different ways do those institutions seek to interest the farmers in their work that they may learn the truths which science has revealed. The farmer must be able to see which crops will, as a rule, be most beneficial for him to raise. He must understand important condition in so far as the what different crops require in order to yield the most, and he should know how to so work his land that it gradually will come to be in the best condition, and he needs to understand how to maintain it so. The farmer also needs to know how to feed and care for his animals; krow the value of the different feeds he uses and their effects on the different animals in the different stages of the'r lives, so as to ge the best returns for what he expends Knowing these things, it will not be difficult to produce in abundance. There need not be such a thing as an abandoned farm because it is exhausted. The farmer also needs to know how

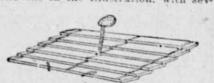
to market his produce. Having acquired the knowledge and worked dilisently and produced in abundance, the farmer still stands hopeless; he cannot market his produce at any time, when the markets harnen to be the best the roads are often impassable. One of the greatest needs of the farmer is good roads. The loss to the nation from having bad roads is incomputable. trical discharge notwithstanding the Good roads benefit every class of people, directly or indirectly. We are wealthy enough to build good roads: the farmer alone should not build

> With better knowledge of farming and good roads we would have a far better country than we have. Our pecuniary-circumstances would be greatly mproved. There would be greater socities and bisher intellects; this would very materially belo to guife the nation safely through political composions

. Let us acquire knowledge and work protected is so important that the mat- faithfully. With road roads, producter of insulating the rod from the live soil and abundant resources we building either by air spaces or by can prower as no other nation on glass is of no importance whatever in earth.-N C Jorgensen, in N. Y. Tri-

The One Here Described Is Much More Effective Than the Type Now in General Use.

In many sections the preparing of ground for planting is a difficult problem. If a clod crusher is used do not have it with a flat crushing surface



eral crushing edges, is much more effective. It is made of two inch hard lumber eight inches wide, and about even feet long. The boards are held in place by three strips of iron one half inch thick and three inches wide, bent into notches two inches deep and six inches long, except the last one be hind, which is to be eight inches long Any blacksmith can do this work. The boards are boiled fact to the iron they will overlap two inches. Two pieces of iron with rings in the end are bolted to the front board three or four feet apart, for the purpose of hitching with a chain. Comfort may be added by attaching a seat from some old machinery .- A. Franklin Shull, in Orange Judd Farmer.

How to Handle Barb Wire.

Wire fence is the fence of the present day, and likely to be for some years to come. A farmer often wishes to move a string of barb wire fence to some other place. To do so is a job that tries the patience and cuts the hands. Let me tell you how to handle it and have no more trouble. Take the spool on which the wire was originally rolled, run a good, strong, smooth stick through it and drive a wedge in firmly at one end to keep | Puck. the spool from turning on stick; now fix a crank firmly to one end of your stick and fasten one end of wire to the spool. Two men take hold of the stick, the right-hand man holding the stick with from less than three acres of land per his left hand, and turning the crank with his right hand. Walk right along and you will be suprised how easily and rap idly you can take up wire. A little different form of spool and a crank on each end will take up woven wire the same as barb .- Farm Journal.

Many otherwise good poultry folks fail to recognize the value of plenty of

pure water for fowls. Did His Worst.

"Now do your worst!" the hero cried Unto the villain bold.

They saw him act, and then they sighed,

"He did as he was told!" WE INVITE THE ATTENTION OF THE PUBLIC TO OUR

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Bill Conkey-Break a five-thousand dollar will? W'y, say, young feller five thousand dollars wouldn't last long enough to make a dent in it .-Judge.

Disparagement.

"Mrs. Bliggins says she never gos-"Mrs. Bliggins says she never gossips."

"No." answered Miss Cayene. "She
hasn't enterprise enough to get any news
of her own. She is merely an audience."

—Washington Star.

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spots if any roots remain, causes hair to
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that we men descended from apes? She-I think perhaps some of you did

but a great number don't seem to have moved at all .- Ally Slorer The Modern Answer. She-If I should die, would you soon

forget me? He-What a foolish question! Have not taken the full course of the 'Memory - taught - by-correspon-dence school?"-Puck.

Proud of Baby. Mother Snale-I feel very proud,

Father Snale-Why, my dear? "Oh, baby wiggled across the floor for the first time to-day!"-Yonkers Statesman.

A Natural Understanding. "He was named up in politics." "Yes?"

"Yes; but he's out now." "Indeed? Did he escape, or was he pardoned?"-Catholic Standard and

The Same Thing. Dashaway-You don't mean to say

that Clinker called you an ass? Cleverton-Well, it amounted to the same thing. He said you and I were tarred with the same stick-Brooklyn

Two Methods. First Office Boy-So yer thrown up yer job, did yer? Before or after?

Second Office Boy-Before or after what? First Office Boy-Getting fired. Tiny Farms.

Big Forest Reserve. The government has already taken one-fourth of all the land in Oregon

In the province of Samara, Russia,

405,000 persons get their substance

Rank.

and turned it into a forest reservation.

An inordinate fondness for titles may be correctly characterized as rank foolishness .- N. O. Times-Democrat.

Agree with Him. Any man will have a good opinion of you if you will always agree with him.-Chicago Dally News.

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